

For Your Information

Start Up Conditions

THERMAL EXPANSION

Water supply systems may, because of such events as high line pressure, frequent cut-offs, the effects of water hammer among others, have installed devices such as pressure reducing valves, check valves, back flow preventers, etc...to control these types of problems. When these devices are not equipped with an internal by-pass, and no other measures are taken, the devices cause the water system to be closed. As water is heated, it expands (thermal expansion) and closed systems do not allow for the expansion of heated water.

The water within the water heater tank expands as it is heated and increases the pressure of the water system. If the relieving point of the water heater's temperature-pressure relief valve is reached, the valve will relieve the excess pressure. **The temperature-pressure relief valve is not intended for the constant relief of thermal expansion.** This is an unacceptable condition and must be corrected.

It is recommended that any devices installed which could create a closed system, have a by-pass and/or the system have an expansion tank to relieve the pressure built by thermal expansion in the water system. Expansion tanks are available for ordering through a local plumbing contractor. Contact the local plumbing inspector for assistance in controlling these situations.

STRANGE SOUNDS

Possible noises due to expansion and contraction of some metal parts during periods of heat-up and cool-down do not represent harmful or dangerous conditions.

Operational Conditions

SMELLY WATER

In each water heater there is installed at least one anode rod (see parts section) for corrosion protection of the tank. Certain water conditions will cause a reaction between this rod and the water. The most common complaint associated with the anode rod is one of a "rotten egg smell". This odor is derived from hydrogen sulfide gas dissolved in the water. The smell is the result of four factors which must all be present for the odor to develop:

- a concentration of sulfate in the supply water.
- little or no dissolved oxygen in the water.
- a sulfate reducing bacteria within the water heater. (This harmless bacteria is non-toxic to humans.)
- an excess of active hydrogen in the tank. This is caused by the corrosion protective action of the anode.

Smelly water may be eliminated or reduced in some water heater models by replacing the anode(s) with one of less active material, and then chlorinating the water heater tank and all hot water lines. Contact the local water heater supplier for further information concerning an Anode Replacement Kit #9000029 and this Chlorination Treatment.

If the smelly water persists after the anode replacement and chlorination treatment, we can only suggest that continuous chlorination and filtering conditioning equipment be considered to eliminate the water problem.

Do not remove the anode leaving the tank unprotected. By doing so, all warranty on the water heater tank is voided.

"AIR" IN HOT WATER FAUCETS

WARNING

HYDROGEN GAS: Hydrogen gas can be produced in a hot water system that has not been used for a long period of time (generally two weeks or more). Hydrogen gas is extremely flammable and explosive. To prevent the possibility of injury under these conditions, we recommend the hot water faucet be opened for several minutes at the kitchen sink before any electrical appliances which are connected to the hot water system are used (such as a dishwasher or washing machine). If hydrogen gas is present, there will probably be an unusual sound similar to air escaping through the pipe as the hot water faucet is opened. There must be no smoking or open flame near the faucet at the time it is open.

RUMBLING NOISE

In some water areas, scale or mineral deposits will build up on your heating elements. This buildup will cause a rumbling noise. Follow "Element Cleaning/Replacement" instructions to clean and replace the elements.

HIGH TEMPERATURE SHUT OFF SYSTEM

The water heater has a high limit shut off system with a reset button located on the thermostat.

Follow the resetting instructions which refer to the high limit behind the access panel.

1. Before beginning, turn "OFF" electrical power supply to the water heater.

